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DOCKET NO. D-2007-024 CP-2

DELAWARE RIVER BASIN COMMISSION

Special Protection Waters

**Upper Makefield Township
Groundwater Withdrawal**

Upper Makefield Township, Bucks County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted by CKS Engineers, Inc. on behalf of the Upper Makefield Township (UMT) to the Delaware River Basin Commission (DRBC or Commission) on March 16, 2017 (Application), for a renewal and approval of an existing allocation of groundwater and review of a groundwater withdrawal project. This docket was previously approved by the Commission on March 12, 2008. The project wells were reviewed under the Pennsylvania Safe Drinking Water Act for public water supply permits and approved by the Pennsylvania Department of Environmental Protection (PADEP) as follows:

WELL NO.	PADEP PERMIT NO.	PADEP APPROVAL DATE
HH1 and HH3	0985501-T2	January 12, 1995
HH4	0995502	April 26, 1995
GTW1 and GTW2	0907511	December 3, 2007

The Application was reviewed for continued inclusion in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The Bucks County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on November 15, 2017.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew the approval of an existing supply of groundwater for public water supply from existing Wells HH1, HH3, HH4, GTW1 and GTW2. The total allocation of groundwater will remain 8.711 million gallons per month (mgm). UMT is not requesting an increase in groundwater withdrawal allocation from that contained in its prior approval.

2. **Location.** The project wells are located in the Houghs Creek and Delaware River Watersheds, in Upper Makefield Township, Bucks County, Pennsylvania. The project wells are completed in the Lockatong Formation. Houghs Creek near the project site is designated by the PADEP as Warm Water Fishes (WWF) and Migratory Fishes (MF). The Delaware River near the project site is designated by the PADEP as Warm Water Fishes (WWF) and Migratory Fishes (MF).

Specific location information has been withheld for security reasons.

3. **Area Served.** The project wells will serve the Upper Makefield Township Heritage Hills and Enclave distribution systems. The Heritage Hills distribution system includes the Heritage Hills residential development, a portion of the Lakeside development, the Traditions development and six commercial connections in an area near Washington Crossing. The Enclave distribution system includes the Enclave residential development which was formerly known as the Gray Tract. The UMT distribution systems are outlined on a map entitled "Service Area Map, submitted with the Application. The Heritage Hills system and Enclave system are not interconnected with each other. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in the Decisions section of this docket.

4. **Physical features.**

a. **Design criteria.** The UMT supplies water to an estimated population of 1,880 via 685 domestic and 6 commercial service connections. The average and maximum groundwater demand for this project are 0.102 million gallons per day (mgd) and 0.148 mgd, respectively. The docket holder estimates an increase in average demand over the next ten years. The projected average and maximum demand is estimated to be 0.187 mgd and 0.281 mgd, respectively. The allocation of 8.711 mgm should be sufficient to meet the future demands of the UMT water distribution system.

b. **Facilities.** The existing project wells have the following characteristics:

WELL NO.*	DEPTH (FEET)	CASED DEPTH / CASING DIAMETER	PUMP CAPACITY (GPM)	YEAR DRILLED
HH1	330	64' / 10"	300	1981
HH3	330	Unknown / 10"	100	1981
HH4	400	80' / 10"	140	1999
GTW1	380	80' / 10"	75	2004
GTW2	377	62' / 10"	75	2004

*The well nomenclature is reflective of the individual residential developments and distribution systems (HH = Heritage Hills; GTW = Gray Tract, which is now known as the Enclave Subdivision).

All water service connections are metered.

All wells are metered.

Prior to entering the distribution system, the water is treated by chlorination for disinfection. Water at the Enclave Subdivision is also filtered in greensand filters for manganese removal.

The project wellheads are above the 100-year flood elevation.

The UMT system is not presently interconnected with any other distribution system.

c. **Other.** Wastewater from the Heritage Hills development is conveyed to the Upper Makefield Township sewage treatment facility most recently approved by DRBC Docket No. D-2002-017 CP-2 on December 10, 2014. The PADEP issued its most recent NPDES Permit No. PA0052035 on September 10, 2013 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the project.

Wastewater from the Enclave Subdivision will be conveyed to the Upper Makefield Township sewage treatment facility which was most recently approved by DRBC Docket No. D-2007-025 CP-3 on September 13, 2017. The PADEP issued its most recent NPDES Permit No. PA0244236 on September 1, 2016 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the proposed project.

d. **Cost.** There is no associated cost with this project.

e. **Relationship to the Comprehensive Plan.** The UMT Wells were included in the Comprehensive Plan via DRBC Docket No. D-2007-024 CP-1, issued on March 12, 2008. Issuance of this docket will continue the groundwater withdrawal project in the Comprehensive Plan.

B. FINDINGS

Special Protection Waters

In 1992, the DRBC adopted Special Protection Waters requirements, as part of the DRBC *Water Quality Regulations (WQR)*, designed to protect existing high water quality in applicable areas of the Delaware River Basin. One hundred twenty miles of the Delaware River from Hancock, New York downstream to the Delaware Water Gap were classified by the DRBC as SPW. This stretch includes the sections of the river federally designated as "Wild and Scenic" in 1978 -- the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area -- as well as an eight-mile reach between Milrift and Milford, Pennsylvania which is not federally designated. The SPW regulations apply to this 120-mile stretch of the river and its drainage area.

On July 16, 2008, the DRBC approved amendments to its *Water Quality Regulations* that provide increased protection for waters that the Commission classifies as Special Protection Waters. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for Special Protection Waters designation and clarity on definitions and terms were updated for the entire program.

Article 3.10.3A.2.e.1). and 2). of the Water Quality Regulations, Administrative Manual - Part III, states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan (NPSPCP) that controls the new or increased non-point source loads generated within the portion of the docket holder's service area which is also located within the drainage area of Special Protection Waters. The wells providing water supply to the UMT are located within in the drainage area to the Special Protection Waters. Since this project does not entail additional construction and expansion of facilities or service areas and there are not any new or increased non-point source loads associated with this approval, the non-point source pollution control plan requirement is not applicable at this time. Accordingly, Special Condition C.II.x. has been included in the Decision section of this docket.

Water Audits for Public Water Supply Systems Serving Greater than 100,000 gpd

Section 2.1.8 of the Water Code states that it is the policy of the Commission to establish a standardized water audit methodology for owners of water supply systems serving the public to ensure accountability in the management of water resources. Voluntary Water Audits were encouraged for public water supply systems through December 31, 2011 (Section 2.1.8.B.). Effective January 1, 2012, the owners of each public water supply system are required to implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance (Section 2.1.8.C). Water audits shall be submitted annually to the Commission by March 31. The UMT submitted their most recent Water Audit on March 10, 2017.

The DRBC estimates that the project withdrawals, used for the purpose of public water supply, result in a consumptive use of 10 percent of the total water use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project is designed to conform to the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

C. DECISION

I. Effective on the approval date for Docket No. D-2007-024 CP-2 below:

a. The projects described in Docket No. D-2007-024 CP-1 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2007-024 CP-2; and

b. Docket No. D-2007-024 CP-1 is terminated and replaced by Docket No. D-2007-024 CP-2.

c. The project and the appurtenant facilities described in the Section A “Physical features” shall be added to the Comprehensive Plan.

II. The project and appurtenant facilities as described in the Section A “Physical features” are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its Water Supply Permits.

b. The wells and operational records shall be available at all times for inspection by the DRBC.

c. The wells shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

d. During any month, the combined withdrawal from all well sources shall not exceed 8.711 million gallons. No well shall be pumped above the maximum instantaneous rate and monthly allocation as indicated below:

WELL NO.	MAXIMUM INSTANTANEOUS RATE (GPM)	MONTHLY ALLOCATION (MGM)
HH1	300	6.386
HH3	100	3.441
HH4	140	6.386
GTW1	75	2.325
GTW2	75	2.325

e. The wells shall be equipped, where possible, with readily accessible capped ports and minimum ½ inch inner diameter (ID) drop pipes as repairs or modifications are made at each existing well so that water levels may be measured under all conditions.

f. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of daily

withdrawals shall be maintained, and monthly totals shall be reported to the PADEP annually and shall be available at any time to the Commission if requested by the Executive Director.

g. Each new water service connection shall include a water meter in accordance with the DRBC's Resolution No. 87-7 (Revised).

h. In accordance with DRBC Resolutions No. 87-6 (Revised) and No. 2009-1, the docket holder shall continue to implement to the satisfaction of the PADEP, the systematic program to monitor and control leakage within the water supply system. The program shall at a minimum include: periodic surveys to monitor leakage, enumerate non-revenue water and determine the current status of system infrastructure; recommendations to monitor and control leakage; and a schedule for the implementation of such recommendations. The docket holder shall proceed expeditiously to correct leakages and unnecessary usage identified by the program.

i. In accordance with DRBC Resolution No. 2009-1 and Section 2.1.8 of the Water Code, the docket holder shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding guidance. Water audits shall be submitted annually to the Commission by March 31.

j. The docket holder shall implement to the satisfaction of the PADEP, the continuous program to encourage water conservation in all types of use within the facilities served by this docket approval. The docket holder will report to the PADEP on the actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

k. No water service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

l. The docket holder shall continue to implement its Water Conservation Plan as approved by PADEP, and shall report to the PADEP on actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

m. The docket holder shall implement to the satisfaction of the PADEP, a drought or other water supply emergency plan.

n. No new water service connections shall be made to premises connected to sewerage systems which are not in compliance with all applicable effluent limits contained in State permits and the *Water Quality Regulations* of the Commission.

o. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

p. The docket holder is permitted to provide the water approved in this docket to the areas included in Section A.3. Area Served of this docket. Any expansion beyond

those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.

q. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

r. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations. (see 18 CFR 401.43).

s. The ownership of this approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

t. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

u. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

v. If the monitoring required herein or any other relevant data or information demonstrates that the operation of this project is interfering with or otherwise impairing existing uses of ground or surface water, or if the permit holder receives a complaint from an existing ground or surface water user within the zone of influence of the withdrawal alleging such interference or impairment, the permit holder shall immediately notify the Executive Director, and unless excused by the Executive Director, shall investigate the demonstrated or alleged impacts. For purposes of this condition, notification shall mean either (a) electronic transmittal of written notice to the Executive Director via email (using addresses posted on the DRBC website); or (b) written notice to the Executive Director and a telephone call to the Project Review Section at 609-883-9500, ext. 216. (Oral notification must always be accompanied by immediate written notification directed to the Executive Director.) In addition, the permit holder shall provide written notice to all potentially affected water users of the permit holder's

responsibilities under this condition. **Any well or surface water supply that is impaired as a result of the permit holder's project withdrawal shall be repaired, replaced or mitigated at the permit holder's expense.** The scope of the options to consider for repair, replacement and/or mitigation shall not be limited solely to those that are owned, operated, or controlled by the project sponsor. An investigation report and/or mitigation plan prepared and certified by a licensed professional engineer and/or a licensed professional geologist shall be submitted to the Executive Director as soon as practicable following notice of the demonstrated or alleged impairment consistent with this paragraph. The Executive Director shall make the final determination regarding the scope and sufficiency of the investigation and the extent of any mitigation measures that may be required. Where ground and surface waters are rendered unavailable, unusable, or unsuitable for the pre-existing use, the Executive Director may direct the permit holder to take interim actions to mitigate such impacts, pending completion of the investigative report and any long-term repair, replacement or mitigation.

w. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

x. Prior to allowing connections from any new service areas or any new developments, the docket holder shall either submit and have approved by the Executive Director of the DRBC a NPSPCP in accordance with Section 3.10.3.A.2.e, or receive written confirmation from the Executive Director of the DRBC that the new service area is in compliance with a DRBC approved NPSPCP.

y. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the *Rules of Practice and Procedure*. In accordance with Section 15.1(p) of the *Delaware River Basin Compact*, cases and controversies arising under the *Compact* are reviewable in the United States district courts.

BY THE COMMISSION

APPROVAL DATE:

EXPIRATION DATE: December 13, 2017